



LightBoss® Product Description

April 2005

LightBoss® is a high efficiency energy saving device that can be used to control the voltage and current levels supplied to HID lighting to generate energy savings and reduce operational costs. This is done through the use of patented technology employing a microprocessor controller, a “stepped” autotransformer, and efficient use of voltage and phase control technology. Energy savings of up to 40% can be realized.

Typical installations include any application where control of HID lighting levels to affect both brightness and operational cost is desired. Examples are parking facilities, warehouses, manufacturing facilities, car dealerships, airports, schools, and any lighting where 100% brightness is not required 100% of the time. Using Light level controls, LightBoss® can also be used to maintain a fixed level of light in certain installations.

HID lighting requires a long warm up time at full voltage to achieve full light output. These lights produce illumination when an inner arc tube is filled with elements that emit light when ionized by electric current. Since HID lamps require a long warm-up time, until now, HID lamps are usually maintained in the “On” state to avoid having to “restrike” them and waiting for full operating light strength. The LightBoss® system allows voltage (power) to be reduced after the lamp is warmed up to achieve significant savings depending on the desired amount of light level reduction. While 15 to 20% reduction is barely (if at all) perceptible to the human eye LightBoss® offers reductions of 5% to 40% so light levels (and energy reduction) of your choice and needs are easily achieved.

Additionally, the LightBoss® controller incorporates many “failsafe” procedures to ensure steady light output, increased bulb and ballast life, and reduced lamp maintenance and replacement costs.

Here is how the LightBoss® system works:

When the lighting is first turned on, AC power passes through a failsafe mechanism to protect against any overvoltage conditions and then through a bypass relay directly to the lamps to provide full voltage for warm up. At the same time, the microprocessor starts a series of diagnostic tests to assure all system functions are operating correctly. After a predetermined period of time the controller verifies that the lamps are fully warmed up and all LightBoss® components are operational. At this point, the bypass relay opens and power is directed to the lamps through the LightBoss® control circuits.

With LightBoss® in control, the customer is able to vary the lighting levels to suit his specific needs. Lighting can be controlled manually, or through devices such as timers, photo sensors, or occupancy sensors. The “stepped” autotransformer allows power reduction in increments of 5%, up to 40% total and the microprocessor control ensures that “steps” down in power are regulated and timed to provide careful and uninterrupted power reduction.



JF0062-02
04/05